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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/788,642

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EXAMINER

FORDE, DELMA ROSA

ART UNIT

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2828

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/788,642	Applicant(s) SUKHMAN ET AL.	
	Examiner DELMA R. FORDE	Art Unit 2828	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 January 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>1/14/2009</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1 – 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gruzdev et al (2003/0021312) in view of Ekstrand (4,953,176) further in view of Martin et al (4,805,177).

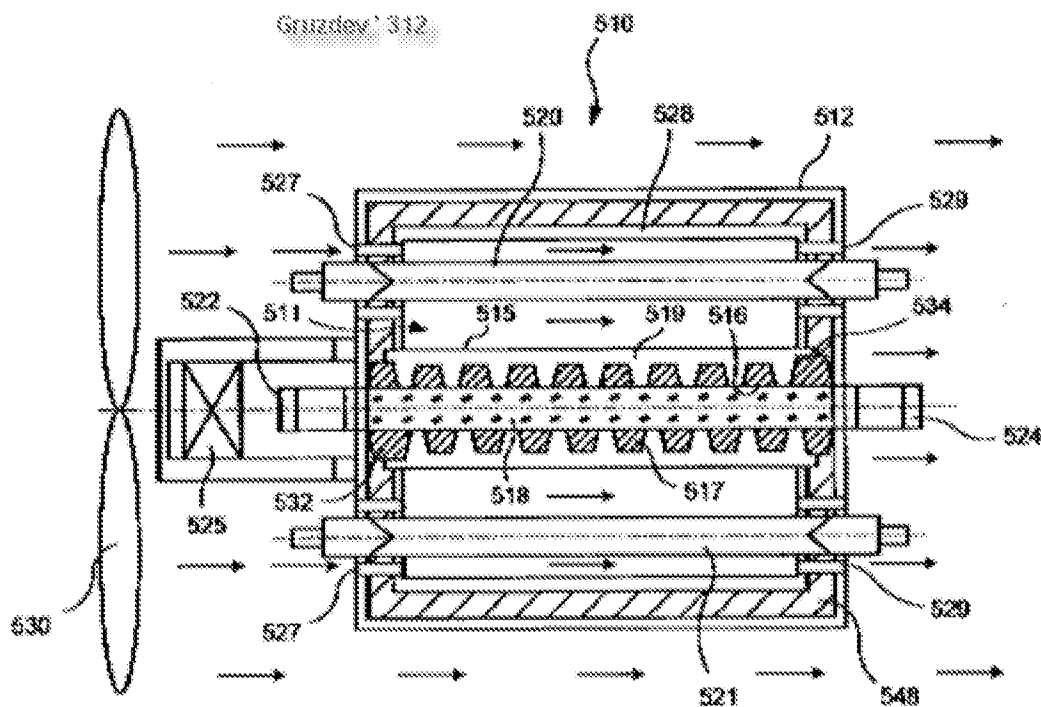


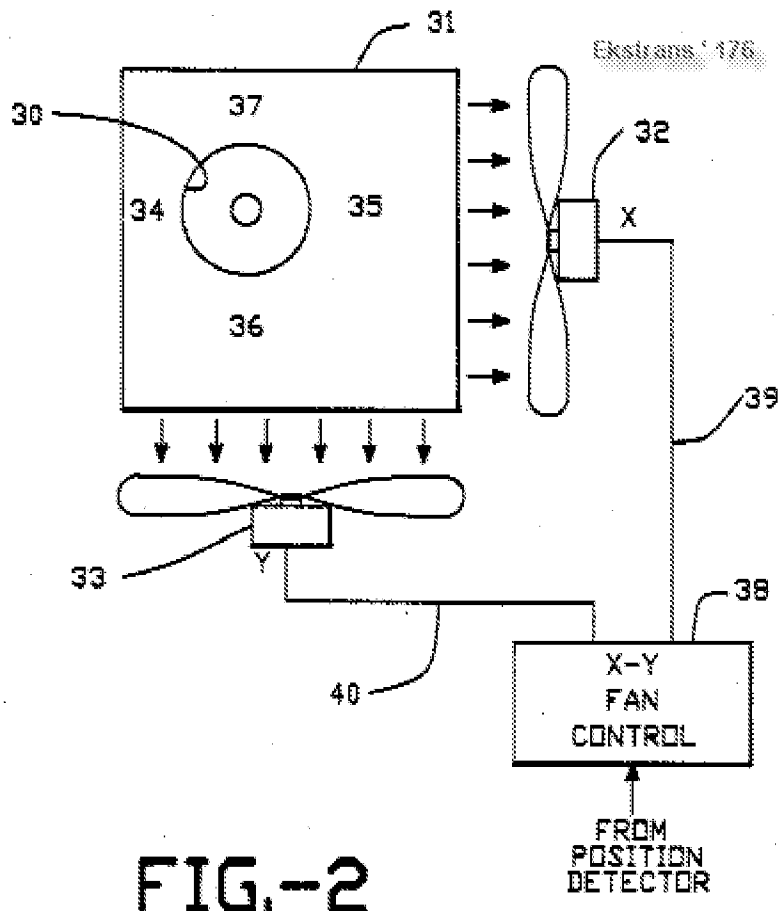
FIG. 5

Regarding claims 1 and 2, Gruzdev disclose on Figure 5, a laser which comprises: a laser source (see Figure 5, Character 518, the reference call "laser rod"); a fan (see Fig. 5, Character 530) for generating an air flow; wherein the laser source (see Fig. 5, Character 518) have an exterior surface; and wherein the laser source (see Fig. 5, Character 518) is arranged in an end in relation along a longitudinal axis (see Fig. 5) developed surface to facilitate transfer of heat to air; wherein the fan (see Fig. 5, Character 530) directs the air flow adjacent to the developed surface of each of said laser source (see Fig. 5, Character 518).

Gruzdev discloses the claimed invention except for the fan directs the air flow generally parallel with the longitudinal axis to pass first substantially adjacent to the exterior surface of the laser source for the cooling thereof, and then to pass substantially adjacent to the exterior surface of the power source for subsequent cooling thereof. Ekstrand teaches providing his device with fan directs the air flow generally parallel with the longitudinal axis. However, it is well known in the art to apply the fan directs the air flow generally parallel with the longitudinal axis as discloses by Ekstrand in Column 3, Lines 4 – 6 and Column 4, Lines 11 -14. Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was to apply the well known fan directs the air flow generally parallel with the longitudinal axis as suggested by Ekstrand to the laser of Gruzdev, because could be used to cooling medium and if the fan directions were reversed to blow cool air onto the cooling fins, rather than to draw cool air across them and then the symmetry of cooling fins would be

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adjusted accordingly (see Column 3, Lines 4 – 6 and Column 4, Lines 11 –14 of Ekstrand).



Gruzdev discloses the claimed invention except for a power source. Martin teaches power source. However, it is well known in the art to apply the power source as discloses by Martin in Column 4, Lines 54 – 60. Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was to apply the well known power source as suggested by Martin to the laser of Gruzdev, because a pump source or diode array is positioned to produce side pumping of the laser.

Regarding claim 3, Gruzdev disclose on Figure 2, surfaces are cooling fins (see Fig. 2, Character 56 and Paragraph [0012]).

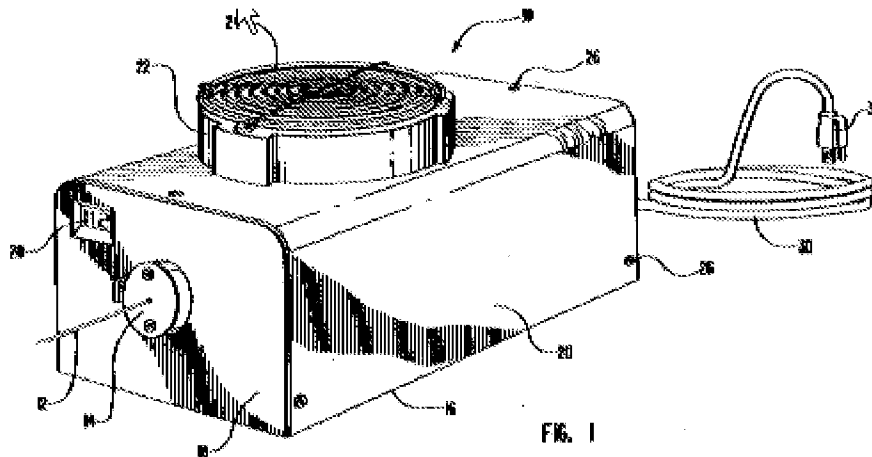
Regarding claim 4, Gruzdev disclose on Figure 2, cooling fins on said laser source are profiled in a direction along the longitudinal axis of the laser (see Fig. 2, Character 56 and Paragraph [0012]).

Regarding claim 5, Gruzdev disclose on Figure 5, a laser source (see Fig. 5, Character 518) and said power source have generally equal cross-sectional areas in a direction perpendicular to the longitudinal axis.

Claims 6, 14 and 22 are rejected under 35 U.S.C. 103(a) as being obvious over Gruzdev et al (2003/0021312) in view of Ekstrand (4,953,176) further in view of Martin et al (4,805,177) further in view of Ostler (5,550,853).

Regarding claims 6, 14 and 22, Gruzdev discloses the claimed invention except shroud covering. Ostler teaches providing his device with a shroud covering. However, it is well known in the art to apply the shroud covering as discloses by Ostler in see Fig. 1, Character 20. Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was to apply the well known shroud covering as

suggested by Ostler to the laser of Gruzdev because could be use to protect the device from atmosphere, dust, environment, etc. see Figure 1, Character 20, of Ostler.



Claims 7 – 13 and 23 are rejected under 35 U.S.C. 103(a) as being obvious over Gruzdev et al (2003/0021312) in view of Ekstrand (4,953,176) further in view of Martin et al (4,805,177), further in view of Ostler (5,550,853).

Regarding claims 7 and 23, Gruzdev disclose on Figure 5, a laser which comprises: a laser source (see Fig. 5, Character 518) having a first end, a second end spaced apart from a first end along a longitudinal axis, a laser resonator (see Fig. 5, 522 through 524); a laser media (see Fig. 5, Character 518); the laser source (see Fig. 5, Character 518) is aligned along the longitudinal axis; and cooling fan (see Fig. 5, Character 530) adapted for generating an air flow for cooling said laser source (see Fig. 5, Character 518).

Gruzdev discloses the claimed invention except for the fan directs the air flow

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generally parallel with the longitudinal axis to pass first substantially adjacent to the exterior surface of the laser source for the cooling thereof, and then to pass substantially adjacent to the exterior surface of the power source for subsequent cooling thereof. Ekstrand teaches providing his device with fan directs the air flow generally parallel with the longitudinal axis. However, it is well known in the art to apply the fan directs the air flow generally parallel with the longitudinal axis as discloses by Ekstrand in Column 3, Lines 4 – 6 and Column 4, Lines 11 -14. Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was to apply the well known fan directs the air flow generally parallel with the longitudinal axis as suggested by Ekstrand to the laser of Gruzdev, because could be used to cooling medium and if the fan directions were reversed to blow cool air onto the cooling fins, rather than to draw cool air across them and then the symmetry of cooling fins would be adjusted accordingly (see Column 3, Lines 4 – 6 and Column 4, Lines 11 -14 of Ekstrand).

Gruzdev discloses the claimed invention except for electrode. Ostler teaches providing his device with an electrode. However, it is well known in the art to apply the electrode as discloses by Ostler in see Fig. 2 Character 46 and 48. Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was to apply the well known electrode as suggested by Ostler to the laser of Gruzdev, because could be use to stimulating the laser see (see Fig. 2, Characters 46, 48, the reference call “cathode and anode”) of Ostler.

Gruzdev discloses the claimed invention except for and power source. Martin

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teaches power source. However, it is well known in the art to apply the power source as discloses by Martin in Column 4, Lines 54 – 60. Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was to apply the well known power source as suggested by Martin to the laser of Gruzdev, because a pump source or diode array is positioned to produce side pumping of the laser.

Regarding claim 8, Gruzdev discloses the claimed invention except the air flow in a direction to cool said laser source *before* cooling said power source. Ekstrand teaches providing his device with the air flow in a direction to cool said laser source *before* cooling said power source. However, it is well known in the art to apply the fan directs the air flow generally parallel with the longitudinal axis as discloses by Ekstrand in Column 3, Lines 4 – 6 and Column 4, Lines 11 -14. Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was to apply the well known the air flow in a direction to cool said laser source *before* cooling said power source as suggested by Ekstrand to the laser of Gruzdev, because could be used to cooling medium and if the fan directions were reversed to blow cool air onto the cooling fins, rather than to draw cool air across them and then the symmetry of cooling fins would be adjusted accordingly (see Column 3, Lines 4 – 6 and Column 4, Lines 11 - 14 of Ekstrand).

Gruzdev discloses the claimed invention except for and power source. Martin teaches power source. However, it is well known in the art to apply the power source as discloses by Martin in Column 4, Lines 54 – 60. Therefore, it would have been obvious

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to a person having ordinary skill in the art at the time the invention was to apply the well known power source as suggested by Martin to the laser of Gruzdev, because a pump source or diode array is positioned to produce side pumping of the laser.

Regarding claim 9, Gruzdev disclose on Figure 5 cooling fan (see Fig. 5, Character 530) generates the air flow in a direction to cool said power source before cooling said laser source (see Fig. 5, Character 518).

Regarding claim 10, Gruzdev disclose on Figure 5, substantially developed surface to facilitate transfer of heat to air; wherein the fan (see Fig. 5, Character 530) directs the air flow substantially adjacent to the developed surface of said laser source (see Fig. 5, Character 518).

Regarding claim 11, Gruzdev disclose on Figure 5, surfaces are cooling fins (see Fig. 2, Character 56 and Paragraph [0012]).

Regarding claim 12, Gruzdev disclose on Figure 2, cooling fins on said laser source are profiled in a direction along the longitudinal axis of the laser (see Fig. 2, Character 56 and Paragraph [0012]).

Regarding claim 13, Gruzdev disclose on Figure 5, a laser source (see Fig. 5, Character 518) have generally equal cross-sectional areas in a direction perpendicular to the longitudinal axis.

Gruzdev discloses the claimed invention except for and power source. Martin teaches power source. However, it is well known in the art to apply the power source as discloses by Martin in Column 4, Lines 54 – 60. Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was to apply the well known power source as suggested by Martin to the laser of Gruzdev, because a pump source or diode array is positioned to produce side pumping of the laser.

Claims 15, 17 – 21 are rejected under 35 U.S.C. 102(b) as being anticipated by Gruzdev et al (2003/0021312) in view of Martin et al (4,805,177).

Regarding claim 15, Gruzdev disclose on Figure 5 a laser which comprises: a laser source (see Fig. 5, Character 518); a cooling fan (see Fig. 5, Character 530), the cooling fan being adapted for generating an air flow directed in a generally straight line path with said laser source (see Fig. 5, Character 518) for cooling said laser source (see Fig. 5, Character 518).

Gruzdev discloses the claimed invention except for and power source. Martin teaches power source. However, it is well known in the art to apply the power source as discloses by Martin in Column 4, Lines 54 – 60. Therefore, it would have been obvious

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to a person having ordinary skill in the art at the time the invention was to apply the well known power source as suggested by Martin to the laser of Gruzdev, because a pump source or diode array is positioned to produce side pumping of the laser.

Regarding claim 17, Gruzdev disclose on Figure 5 cooling fan (see Fig. 5, Character 530) generates the air flow in a direction to cool before cooling said laser source (see Fig. 5, Character 518).

Gruzdev discloses the claimed invention except for and power source. Martin teaches power source. However, it is well known in the art to apply the power source as discloses by Martin in Column 4, Lines 54 – 60. Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was to apply the well known power source as suggested by Martin to the laser of Gruzdev, because a pump source or diode array is positioned to produce side pumping of the laser.

Regarding claim 18, Gruzdev disclose on Figure 5, substantially developed surface to facilitate transfer of heat to air; wherein the fan (see Fig. 5, Character 530) directs the air flow substantially adjacent to the developed surface of each of said laser source (see Fig. 5, Character 518) and power source (see Fig. 5, Character 525).

Regarding claim 19, Gruzdev disclose on Figure 5, surfaces are cooling fins (see Fig. 2, Character 56 and Paragraph [0012]).

Regarding claim 20, Gruzdev disclose on Figure 2, cooling fins on said laser source is profiled in a direction along the longitudinal axis of the laser (see Fig. 2, Character 56 and Paragraph [0012]).

Regarding claim 21, Gruzdev disclose on Figure 5, a laser source (see Fig. 5, Character 518) have generally equal cross-sectional areas in a direction perpendicular to the longitudinal axis (see Figure 5).

Response to Arguments

Applicant's arguments with respect to claims 1 – 23 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the

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shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DELMA R. FORDE whose telephone number is (571)272-1940. The examiner can normally be reached on M-T.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, MinSun O. Harvey can be reached on 571-272-1835. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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/DELMA R. FORDE/
Examiner, Art Unit 2828
April 6, 2009

/Minsun Harvey/

Supervisory Patent Examiner, Art Unit 2828